

CANADA'S HIGH-LEVEL NUCLEAR WASTE MANAGEMENT PROGRAM:

PUBLIC PARTICIPATION; ETHICAL AND SOCIO-ECONOMIC ASSESSMENT

A Brief to the "Interfaith Hearings on Nuclear Issues"

Sponsored by the Interfaith Program for Public Awareness of
Nuclear Issues
October and November, 1984

Prepared By
Taskforce on the Churches and Corporate Responsibility
129 St. Clair Avenue West
Toronto. M4V 1N5

1 October 1984.

CANADA'S HIGH-LEVEL NUCLEAR WASTE MANAGEMENT PROGRAM:
PUBLIC PARTICIPATION; ETHICAL AND SOCIO-ECONOMIC ASSESSMENT

SUMMARY

Since 1982 the Taskforce on the Churches and Corporate Responsibility, on behalf of its member churches, has been engaged in research and advocacy related to the high-level nuclear waste management program in Canada.

In its submission to the "Interfaith Hearings on Nuclear Issues" the Taskforce uses this high-level nuclear waste management program as a case study to explore the question of how nuclear decisions are made.

In June 1982, the churches presented a brief to the Atomic Energy Control Board in response to its request for public comment on a draft regulatory policy. The draft sets forth criteria and a process of assessment for a disposal method proposed by Atomic Energy of Canada, Ltd.

The churches' major recommendations concerned the adequacy of the assessment process in terms of opportunity to discuss the ethical dimensions of the issue; the lack of socio-economic guidelines; and the need for strengthening the means of public participation.

As a result of correspondence about and/or discussion of these recommendations with the Atomic Energy Control Board, the Department of Energy, Mines and Resources, the Ontario Ministry of the Environment, Environment Canada, Atomic Energy of Canada, Ltd., Ontario Hydro, and the Canadian Nuclear Association, the churches have identified some of the features which characterize decision-making regarding nuclear waste management.

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction:	
The Churches and Nuclear/Uranium Issues	1
II. Regulatory Policy and High-Level Nuclear Wastes	2
III. Church Interventions and Government/Corporate Responses	
A. Brief to the Atomic Energy Control Board (AECB), June 1982	6
B. Position of the Department of Energy, Mines and Resources	7
C. Position of Environment Canada and the Ontario Ministry of the Environment	11
D. Atomic Energy of Canada Ltd. (AECL)	
1) History of the Waste Disposal Research Program	16
2) AECL's Position	19
E. Ontario Hydro	21
F. Canadian Nuclear Association	23
IV. Conclusion	
Appendix I: Church Policies and Working Papers on Energy and the Environment	

I. INTRODUCTION: THE CHURCHES AND NUCLEAR/URANIUM ISSUES

The Taskforce on the Churches and Corporate Responsibility is an ecumenical coalition of the major Christian churches in Canada.¹ The Taskforce is an expression of the increasing concern within the Canadian Churches to reflect Christian social teachings in ways that are relevant to the issues of modern society. One dimension of this has been the recognition that the Churches, as beneficiaries of corporate activity, also have a responsibility in attempting to secure socially beneficial changes in corporate and related public policies.

In 1982, member churches added issues related to energy and the environment, including nuclear issues, to the agenda of the Taskforce. Some of the member churches already have or are developing official national policy on nuclear issues, while others have enunciated policy statements in regard to circumscribed local nuclear or uranium developments.²

1 In 1983-84 the following Churches and religious societies were officially represented with full membership on the Board of the Taskforce:

- The General Synod of the Anglican Church of Canada
- Canadian Conference of Catholic Bishops
- Canadian Council of Churches
- Canadian Religious Conference of Ontario
- Jesuit Fathers of Upper Canada
- Lutheran Church in America - Canada Section
- Oblates of Mary Immaculate
- Presbyterian Church in Canada
- Redemptorist Fathers
- Scarborough Foreign Mission Society
- Sisterhood of St. John the Divine
- Sisters of Charity of Mount St. Vincent, Halifax
- United Church of Canada
- Ursulines of Chatham Union

Observer Status:
- Mennonite Central Committee

2 See Appendix 1.

The Taskforce has focussed its attention on the problem of high-level nuclear waste disposal. In this submission to the "Interfaith Hearings on Nuclear Issues" we will draw on our research and advocacy relating to Canada's high-level nuclear waste management programme to address the questions posed by the Hearings concerning how decisions about nuclear energy are made.*

II. REGULATORY POLICY AND HIGH-LEVEL NUCLEAR WASTE

In March 1982 the churches' attention was drawn to the review process proposed for the high-level nuclear waste programme. At that time the Atomic Energy Control Board (AECB), the nuclear regulatory authority, invited the public to submit written responses to its proposal of a process and criteria for assessing the concept of deep geological disposal of high-level nuclear waste.

At the same time, terms of reference were announced for the Interagency Review Committee, which was to coordinate the regulatory agency reviews of the proposal. The members of the Interagency Review Committee are Environment Canada, the Ontario Ministry of the Environment, and the AECB.

It was announced that Environment Canada, along with the Ontario Ministry of the Environment, would be responsible for the socio-economic review of the proposed disposal concept. The AECB, in consultation with the environmental ministries, would be responsible for the review of technical aspects relating to health, safety, security and the environment. In addition, it was announced that socio-economic issues would

* Appendix A, #3, "Interfaith Hearings on Nuclear Issues", Sponsored by Religious Faith Groups of Canada, Toronto, 1984

The questions are:

3. How are decisions made in this field?
 - a) Who makes decisions in the various nuclear areas?
 - b) Who has access to this decision-making process?
 - 1) From the public
 - 2) From the scientific/technical community
 - 3) From those opposed to nuclear development.
 - c) What is the role of values and pressures in scientific decision-making with respect to nuclear decisions?
 - d) Are the moral and ethical aspects of these decisions being given sufficient attention?
 - e) Who speaks for future generations?
 - f) Who holds the decision-makers accountable?
 - 1) From within the decision-making structures
 - 2) From society at large.

be reviewed through a public hearing to take place when research into the disposal concept is completed.

The proposal is being researched and developed by Atomic Energy of Canada Ltd., (AECL) a crown corporation with the mandate to develop and promote the use of nuclear energy. The program to develop a method for disposal was authorized under a cooperative agreement between the federal and Ontario governments in 1978, and is now expected to be completed by 1988.

The churches submitted their brief to the AECB in June 1982. They commented on the structures, process and terms of reference for the assessment of the proposal. Their major recommendations were:

- that review processes and public hearings be structured so as to enable decision makers and the public to see clearly, and participate in discussions of, the ethical dimensions of both "technical" and "socio-economic" issues.
- that socio-economic guidelines, in addition to technical guidelines, be formulated, so that they would be given equal consideration with technical, environmental and safety issues by AECL in the preparation of its proposal.
- that serious attention be given to mechanisms for strengthening public participation in the assessment process.

The churches, in advocating these recommendations to corporate and government policy makers, have confronted a pattern of policy making which is not unique to the nuclear area, and which has been identified in other studies as inadequate for dealing with environmental hazards and complex technologies.

The problems of this pattern of policy making are itemized below. They will be elaborated and illustrated at greater length in Part III. There, we describe the churches' attempts to understand and influence the decision-making process regarding nuclear wastes.

1. In the assessment and interpretation of scientific evidence concerning possible environmental hazards, many important value judgements are normally left unexamined. If they were made explicit, they would be the subject of political conflict. Important decisions (or "non-decisions") are made before a policy ever reaches the floor of a legislature or of a public hearing room.¹ The churches have questioned the lack of socio-economic guidelines and noted the need for clarification of ethical issues to guide the research stage of the waste disposal program.
2. In regard to complex and evolving technologies, a Science Council of Canada Report warns that we must develop a "pro-active" system of decision-making, or a prospective view, in order to defend the public interest in the resolution of the serious value-scientific questions which arise.² The churches have challenged the assumption that a serious effort to engage the public in consideration of options for disposal of nuclear waste can await the completion of scientific research. Public hearings in 1990 cannot take the place of informed public participation throughout important stages of decision-making.
3. Regulatory policy concerning environmental issues favours the regulated corporation (private or public) with its superior financial, organizational and informational resources, over public interest groups or even regulatory agencies. In the nuclear policy area federal policy processes were dominated by AECL until the early 1970's. The AECB and the Department of Energy, Mines and Resources have since become more important, but AECL, with its monopoly of federal expertise, remains the dominant force.³

-
1. T.F. Schrecker, Political Economy of Environmental Hazards, Protection of Life Series, A Study Paper prepared for the Law Reform Commission of Canada, 1984.
 2. Regulating the Regulators, Science, Values and Decisions, Science Council of Canada, Report 35, 1982.
 3. G. Bruce Doern, "The Politics of Canadian Nuclear Energy", in G. Bruce Doern and Robert W. Morrison, eds., Canadian Nuclear Policies, The Institute for Research on Public Policy, Montreal, 1980, p. 55

4. Finally, as has happened in other environmental issues, decision-making in the high-level nuclear waste program has been largely entrusted to a department with a conflicting mandate. The Department of Energy, Mines and Resources has oversight of both the regulatory agency, the AECSB, and the proponent of the waste disposal method, AECL. Furthermore, AECL, the crown corporation charged with the promotion of nuclear power, has a conflict of interest in being charged simultaneously with finding a safe disposal method for nuclear wastes. AECL cannot see public apprehension about a safe disposal method as anything more than a public relations problem.

Since there is public apprehension about safe disposal which is not appreciated by AECL, the development of a publicly responsive decision-making process is essential.

The development of such a decision-making process is made more difficult, however, because the question of continued use of nuclear power cannot be divorced from discussions of the waste issue. There are ethical questions concerning the disposal of existing nuclear wastes which cut across the opposing views on the future of nuclear power. There is recognition on the part of those who oppose further nuclear development that Canada must find the best possible means of managing or disposing of existing wastes. In spite of this the assumption is often made that questions concerning the waste disposal program will be raised only by those who are anti-nuclear power. On the other side, the assumption is made that those who promote nuclear power will not publicly admit to or encourage discussion of any possible problems with the waste management programme.

The fact that it has not been possible to separate the waste disposal issue from the larger issue of continued nuclear power development is not completely due, however, to the mutual mistrust of advocates and opponents of nuclear power. The waste disposal issue itself focuses questions central to the nuclear power debate: the unknowable impact on future generations; the possible re-use of wastes for plutonium for weapons as well as power production; and financing waste disposal as a component of the inclusive economic cost of nuclear power development in comparison with the cost of an alternate energy future.

III. CHURCH INTERVENTIONS, AND GOVERNMENT/CORPORATE RESPONSE

A. Brief to the AECB, June 1982

The brief submitted by the churches to the AECB in June 1982 contained one recommendation with immediate implications for public participation in the debate about the waste management programme. The churches considered the regulatory policy to be of sufficient importance to propose that the AECB invite public presentations on, and discussion of the guidelines. They favoured public discussion at this point, rather than the submission of only written comments. Four months later, when the Taskforce had received no response to its brief, it contacted the AECB. The AECB ruled out such public discussion except possibly with specific groups selected by the AECB. The AECB also stated that it would not respond to each written submission. Instead, it was to make public a summary of all comments received and provide a rationale for the manner in which they were used, when it reissued a revised regulatory policy early in 1983. The AECB also told the Taskforce that in revising its proposal, it would not consider comments about the overall direction of the waste management programme which it considered beyond its mandate.

The publication of the revised regulatory policy has been repeatedly delayed. The churches and others are still without even a limited summary response to their submissions made in June 1982. The AECB's reluctance or inability to provide adequate public consultation can only contribute to unease among interested citizens about the nature and orientation of nuclear regulation in Canada.

The inadequacy of the AECB consultation process, particularly in relation to non-expert public groups, is recognized to some extent in a consultant's report to the AECB of March 1984.* The report suggests that for the "non specialist understanding a written text and being able to place it in context and to evaluate the multitude of choices underlying any regulatory effort are two different things". The report suggested that the AECB organize discussion sessions, in co-operation with other regulatory agencies, where the broader context surrounding and underlying a policy can be discussed before a regulation is determined. Whether the AECB will respond positively to this suggestion is not yet known.

B. Position of Department of Energy, Mines and Resources

Having failed to convince the AECB to hold discussions, the churches sought a response to their concerns from the Department of Energy, Mines and Resources (EMR) in October 1982. The EMR staff responded fully to the points and a meeting with the Minister took place in February 1983. However, such privileged access for the churches does not address their fundamental contention. They require that the processes of consultation and decision-making be open to other groups and individuals who do not share the access the churches enjoy to the Minister and his officials.

* Secor Inc., "An Assessment of the Atomic Energy Control Board Consultation Process" a report to the Atomic Energy Control Board, March 1984.

Following is a summary of EMR's responses to the churches' recommendations in this regard, as included in the Taskforce 1982-83 Annual Report.¹

Structure of the Review Body:

The churches expressed concern about the structure and process for assessment of the waste disposal proposal. They questioned the independence of such an assessment by structures in circular relationships to each other. The Department of Energy, Mines and Resources (EMR) to whom both the AECB and the AECL are accountable, will make a decision on the acceptability of the disposal concept, the decision will be based on AECB's technical review of AECL's proposal which is to "take into account" socio-economic reviews by the provincial and federal environmental ministries and by a public hearing. The Government responded that the decision on the acceptability of the concept will be made by the Canadian and Ontario governments. Concerning the conflict of interest in having both the regulatory agency (AECB) and the proponent (AECL) responsible to the same authority (EMR), the Government said only that it had no plans to change the existing Atomic Energy Control Act. It did not clarify the relationship between the technical review process and the socio-economic review process.

The churches also suggested that a review body should represent the interests of provinces other than Ontario, such as Quebec and New Brunswick which have nuclear reactors, and Manitoba, the site of a research programme. The Government replied that if waste management programs were to be developed with Quebec and New Brunswick, committees involving them would need to be established — an apparent admission that there has been no planning for wastes generated in those provinces. The Government pointed out that Manitoba was not the site of a pilot waste repository, but of an underground research laboratory, and therefore its involvement was not necessary.

The churches further recommended that a review body provide for representation of members of the scientific community who are independent of the nuclear industry. They asked that representatives be included of the medical profession, of environmental groups, of church groups, of labour unions, and of municipalities, among others. The Government argued that the AECL's Technical Advisory Committee, consisting of members nominated by professional societies; the AECB's Advisory Committee on Radiological Protection, consisting of medical advisors; and the federal and Ontario environment departments, provide for adequate independent assessment. Other groups (churches, unions, municipalities) would have no direct and continuing input, but would be invited to contribute at the public discussion stage. Public hearings will take place at the end of the concept assessment process which is not anticipated to be completed until the end of the 1980's.

In response, and as evidence of a possible alternative model, the Taskforce provided the government with information concerning the "critical review and public assessment" process used in Sweden. The process involved the commissioning of fifty reviews by independent foreign and domestic experts, and a procedure called "scientific mediation", designed to raise fundamental issues in a way that prepares the public, not just scientists, for informed participation in decision making.

The Government replied that the Canadian approach to concept assessment is different from, but not inferior to, the process used in Sweden. The Canadian approach is to have a continuing technical review, by the AECL's Technical Advisory Committee, followed by an assessment process consisting of review by regulatory authorities, a public hearing, an assessment by the AECB, and a decision by governments. Technical questions will have been raised by the Technical Advisory Committee before the final proposal is issued. This was not the case with the Swedish proposal in 1977, where many technical problems had not been resolved.

The Government did not respond to the suggestion that the assessment process include a procedure such as "scientific mediation" as used in Sweden, to ensure that decision makers and the public have a clear understanding of any scientific disagreement concerning the proposal.

1. Taskforce on the Churches and Corporate Responsibility, Annual Report, 1982-83 pp. 57-59.

Ethical Dimensions of Technical Assessment:

The churches recommended that the review process and public hearings be structured so as to enable decision makers and the public to participate in discussions of the ethical dimensions of both "technical" and "socio-economic" issues. The process as presently envisaged, with public hearings planned only on "socio-economic" issues including "public perception of the risks associated with radioactive waste management" implies that the technical assessment will deal only with "matters of fact" in which ethical analysis and the public are not to have any say. The Government, however, maintained that ethical questions would best be raised in the public hearings, i.e. after the disposal concept has been technically reviewed but before governments' acceptance. It also felt that public interaction is not necessary during the development of the waste disposal proposal, or in its technical assessment. In response to the churches' recommendation that the question of risk be addressed by the public as well as by experts through participation in the technical assessment phase, the government spokesperson defended the assumption implicit in the AECB regulatory policy, that there is often little connection between public perception of risks and actual risks.

Socio-Economic Assessment:

The churches recommended that, as the selection of a particular disposal option would have general socio-economic implications, the guidelines for AECL's preparation of its disposal proposal should include socio-economic criteria. Issues with clear social and economic implications would include whether disposed high-level waste should be retrievable and for how long; whether trade-offs are contemplated between designating disposal sites remote from population centres and the inevitable transportation hazards such sites would entail; what funds would be required and who would assume the cost for disposal of high level waste?

The Government's view on these questions was that they represent "straightforward technical or economic decisions" and are best addressed after technical feasibility has been assessed, "especially since no site will be selected for many years."

Yet, delay in determining socio-economic criteria now would make it unlikely that a disposal concept developed over many years, and receiving a positive technical assessment, would be reconsidered for valid socio-economic reasons.

Strengthening of Public Participation:

The churches recommended that mechanisms be established for greater public participation in assessment of the waste disposal program. These should include the convenient and timely disclosure of information, and the funding of intervenors well in advance of public hearings to permit research and the use of expert witnesses.

In response, the Government referred to annual and other reports available from AECL and its Technical Advisory Committee. No decision has yet been made on the crucial issue of funding for intervenors, on which many citizens' groups have to rely to assess most of AECL's reports.

Since these initial correspondence and meetings, the Taskforce has sought further information about the nature of the public hearings. The churches had heard conflicting reports about whether the hearings would be under the Federal Environmental Assessment Review Office (FEARO), or EMR departmental hearings under the Inquiries Act. The churches enquired from the Minister to ask if a decision had been made.

As EMR is the department to which both the proponent, AECL, and the regulatory authority, the AECB report, the churches wondered whether departmental hearings would be a satisfactory arrangement in the public view. It was considered that FEARO's experience with public hearings, and its arms length relationship to both EMR and Environment Canada, would make it the better sponsor. The possible disadvantage of EMR hearings, according to an EMR official, was that intervenor funding is available for departmental hearings, but not for FEARO hearings. The churches therefore asked the Minister if EMR would make a commitment that intervenor funding be provided and sufficiently in advance to encourage effective public participation. The churches submitted that without intervenor funding for public hearings, there are serious obstacles to full discussion of technical and socio-economic questions, and the ethical aspects of both. Participation in the assessment of major projects is particularly important for those citizens directly affected who have the least access to corporate and government levels of decision-making. Furthermore, where highly technical questions are involved, as in the high-level nuclear waste issue, it is important that the public have access to all the relevant information, in a form understood by lay people.

Finally, the churches asked if there would be opportunity for the public to co-determine the terms of reference of the hearings. The experience of the churches has been that where technical issues are perceived as paramount, effective

participation in policy deliberation by ordinary citizens is restricted or excluded. The ability of the public to assess a proposal of a crown corporation such as AECL for nuclear waste disposal depends on a large part on how the issue is defined by the authority holding an inquiry.

The Minister responded in late August that the inquiry could (emphasis ours) be conducted by FEARO, that no decision has been made regarding intervenor funding, and that the government was aware that public input with respect to the terms of reference can be useful under some circumstances.

C. Position of Environment Canada and the Ontario Ministry of the Environment

In November 1982, the Taskforce also sought information about the role of the other members of the Interagency Review Committee (IRC): Environment Canada and the Ontario Ministry of the Environment (OME). An official of Environment Canada provided previous minutes of the IRC, which the IRC had decided would be available to the public. The Taskforce was referred to the AECB when it asked to continue to receive IRC minutes. The AECB, however, refused a request to put the Taskforce on a regular mailing list, stating that all documents are available on request and in the AECB library, in Ottawa.

The waste disposal review process, as outlined by the AECB in March 1982, provided for the OME and Environment Canada to undertake socio-economic review. However, there were no socio-economic guidelines provided in the draft regulatory policy.

In letters to Environment Canada and the OME of January and March 1983, the Taskforce asked for clarification of where responsibility lies for a socio-economic assessment, and how such review would be carried out. It also asked which agency or department had assumed responsibility for public consultation, and what form public consultation might take, in addition to the one public hearing already announced for the end of the research phase in 1990.

In June 1983 the Ontario Minister of the Environment replied that the details of timing, process and terms of reference for a socio-economic review had not yet been developed, although the Ministry would "do what it can with its limited resources to ensure that such a review is carried out". Concerning public consultation, the Minister wrote that "Although the IRC is pleased to receive public comments, the ultimate public involvement and consultation will be determined by a Federal hearing panel". The churches are at a loss about how, without terms of reference, and without public involvement, a socio-economic review can be carried out.

Repeated attempts to elicit a response from Environment Canada succeeded only partially in November 1983, when an official of the Department confirmed that no socio-economic guidelines would be included when the draft regulatory policy was re-issued. He suggested that a socio-economic review had been mentioned in the draft regulatory policy in order that AECL would be obliged to undertake socio-economic impact studies, but it had not been determined whether Environment Canada had the resources to evaluate those studies. The Taskforce was invited to comment on AECL's treatment of socio-economic issues whenever its "concept assessment document" was published.

In February 1984 the churches wrote directly to the Minister of the Environment, Charles Caccia, hoping for a more forth-right response because of recent news reports that Environment Canada planned to exert more control over the nuclear industry, and to provide better public information and consultation on environmental aspects of the nuclear cycle.¹ The churches reminded the Minister of the responsibilities it had assumed as a member of the IRC, and of Environment Canada's traditionally strong public consultation policy.

1. Ottawa Citizen, 10 January 1984, "Nuclear Watchdog 'too lax'".

Mr. Caccia responded that no socio-economic criteria would be published, but that the list of socio-economic considerations in the draft AECB regulatory document would suggest to AECL the generic issues it should address in its proposal, the Concept Assessment Document. Environment Canada did not consider it necessary to plan socio-economic review of the disposal concept. Socio-economic assessment would take place during the public hearings. Environment Canada officials would, however, provide advice to AECL as to which socio-economic factors and considerations should be studied in advance.

Mr. Caccia also stated that it is EMR's responsibility to examine the options for the public hearings which are to address socio-economic issues.

To whom the public hearing panel will report on socio-economic issues has never been made clear, but it appears that Environment Canada is not likely to be involved at that stage either. The AECB told the Taskforce that the public hearing would "precede the formal statement on the concept by the Board, thereby allowing the Board to take into account the findings of the hearing". In view of the definition of AECB's mandate as a body that regulates only technical and scientific matters, it is entirely unclear whether it intends to simply pass on the hearing panel's findings on socio-economic issues and the ethical aspects of technical issues to the EMR or the federal and Ontario Cabinets.

Mr. Caccia suggested that there is opportunity for public participation through the review process as presently structured. For example, interested groups might comment on AECL's Interim Concept Assessment Document. "In fact", said Mr. Caccia,

"this department would appreciate more input from the public and public interest groups, especially input relating to the concept itself rather than to the procedure of the review."

He ignored the problem that for most non-specialist groups encouragement and assistance is needed to enable informed comment on highly technical documents. The socio-economic and ethical questions which might be asked about the waste disposal concept need careful preparation.

The churches recognize that public interest in the high-level waste disposal is limited in this "concept assessment" phase. When consideration is given in the second phase of the program to selection of a disposal site, public interest is bound to increase considerably. In fact, interest and apprehension to date has come almost exclusively from communities which fear that they will be selected as waste disposal sites, because they are presently the site of test drilling in the course of AECL's research.

The churches recognize that the decision to separate the concept assessment phase from the site selection phase of the waste management program will permit a more thorough review of the proposal. They also suggest that the concept - disposal in large, homogeneous formations of hard rock known as plutons - in itself has implications for possible disposal sites, and for transportation routes from the reactor to those sites. Communities which fear that the nature of the proposal itself may put them on a short list of disposal sites or transportation routes should have had better opportunity for discussion of their concerns with the regulatory agencies.

The churches were initially encouraged that Environment Canada was a member of the IRC and had taken responsibility for socio-economic review. Its almost complete abdication of this responsibility is surprising and puzzling. One can only conjecture that it has not been able to muster the resources necessary for it to fulfill this task.

That this may be the case is suggested by the untimely cancellation of a welcome program announced in February 1984 by the Ontario Regional Office of the Environmental Protection Service of Environment Canada. The program had planned to produce public "information papers" on specific nuclear fuel cycle activities, existing or proposed, within Ontario. The information papers had been intended to encourage questions and comments from the public, which could be incorporated in decisions regarding the nuclear fuel cycle.

The apparent lack of resources allocated to Environment Canada to carry out its responsibilities for the waste management program stands in contrast to the apparent wealth of resources assigned to AECL for public relations and a public participation program. The Taskforce was contacted more than once by public relations officials offering speakers, literature and films and by an AECL consultant studying the socio-economic and ethical issues in waste disposal. Church representatives, in a discussion convened by the Canadian Nuclear Association, were told by AECL representatives that its technical reports on waste management do get extensively reviewed, but it is nevertheless now developing a program of public consultation on social issues in the waste management program, and might even have limited "intervenor" funds available to facilitate participation.

Church representatives do not question the legitimacy of these activities. However, while AECL's own programs of socio-economic assessment and public consultation are important, coming from the agency most biased in favour of its own activities, they are in danger of being interpreted as mere public relations. This unfavourable image is reinforced if regulatory agencies are not in turn given the resources to provide criteria or guidelines to AECL. The imbalance in resources between the AECL and Environment Canada for this important aspect of the waste management program calls into question the whole assessment process.

D. AECL

1. History of the Waste Disposal Research Program

It was not until about 1968, when the Douglas Point reactor first went into operation, that serious attention was given to the issue of nuclear waste disposal.¹

In 1972, the AECS decided that AECL would have the technical responsibility for the development of retrievable waste storage sites for spent reactor fuel, while the AECS would maintain its regulatory responsibility.

AECL carried out a design study which recommended, in 1974, the twin concepts of above ground interim storage in canisters, and deep geologic emplacement for ultimate disposal.

Research on deep geologic disposal proceeded. However, in March 1977, in response to strong community opposition, the federal Minister of Energy, Mines and Resources issued a restraining order against AECL's test drilling near the southern Ontario town of Madoc. Immediately, in April 1977, EMR commissioned a group of three scientists to examine the subject of nuclear waste disposal. Its report, "The Management of Canada's Nuclear Wastes", is known as the Hare Report, after its Chairman, Dr. Kenneth Hare.

Anti-nuclear critics questioned the authors' expertise, their independence (one was a former vice president of AECL), the lack of public hearings, and the fact that the report was completed in only four months.

Academic observers have also criticized the process by which the report was produced. It was noted that little effort had been made to structure the committee as a vehicle for public debate either among technically qualified experts or between experts and non-experts.²

1. The following summary of the history of waste disposal is drawn partially from Gordon H.E. Sims, A History of the Atomic Energy Control Board, Ottawa, 1981, commissioned by the AECS.

2. G. Bruce Doern, The Peripheral Nature of Scientific and Technological Controversy in Federal Policy Formation, Science Council of Canada, July 1981, pp 71-72.

It was suggested that it exemplified a "closed consultation" model of decision-making

based on private deliberations among carefully selected individuals who are technically competent in areas relevant to the issue.... The process of choosing scientists to participate is discretionary, shaped by the conscious or unconscious bias of the initiator.... In general it works best with an apathetic public and an unaccountable government.¹

A subsequent comment by A.M. Aikin, one of the authors, does nothing to dispel the argument that the report has an uncritical pro-nuclear tilt.

I recognize the tremendous pressures the regulatory agencies are under, but I appeal to them to stop trying to make the world perfect. Rather, they should make sure the good from our nuclear activities outweighs the bad by a good factor... I call on the AECB, even though it may not see it as its role, to speed up the setting of such regulations, to seek wider industrial, technical, and public consultation, and not to take the safest approach possible, but rather the best one.²

The recommendation of the report was that the AECL research and development program be accelerated to demonstrate the feasibility of the safe disposal of radioactive wastes in deep geologic formations. The recommendation became the basis for Canada's nuclear waste management program. An agreement to proceed with concept assessment of the deep geologic disposal option, The Joint Canada-Ontario Agreement on Nuclear Waste Management, was announced June 5, 1978.

In the winter and spring of 1978, the AECL again faced opposition to test drilling, this time in Northwestern Ontario. Opponents objected that the decision to examine crystalline rock rather than salt or shale had no scientific basis, but appeared to be a politically motivated decision to relegate nuclear waste disposal to the sparsely populated areas of Northern Ontario with only a few votes at stake. Local citizens asked for public hearings and a plebiscite, and challenged the government's and AECL's

1. Regulating the Regulators, Science, Values and Decisions, Science Council of Canada Report 35, October 1982.

2. A.M. Aikin, "Nuclear Waste Management", in G. Bruce Doorn and Robert W. Morrison, eds., Canadian Nuclear Policies, Institute for Research on Public Policy, Montreal, 1980.

definitions of adequate public information and of what constitutes community approval. They raised questions about the relationship between test drilling, site selection for waste disposal, and site selection of plutonium reprocessing plants.

There was ambiguity following from the 1978 Agreement as to whether the governments had promised that test drilling would take place only in areas where there was public acceptance. Plans in 1980 for test drilling near communities such as Massey again produced opposition, but at this point the Governments decided to announce "some changes to direct public involvement in the present research phase". In the Canada-Ontario Joint Statement on the Nuclear Fuel Waste Management Program of August 4, 1981, the governments announced the decision that "no disposal site selection will be undertaken until after the concept has been accepted", that test drilling had been authorized at East Bull Lake, near Massey, and Overflow Bay/Denmark Lake, near Kenora, and that general field studies would proceed without the need for specific local community approval.

The 1981 agreement also announced the process by which acceptance of the disposal concept would be undertaken, confirming that the AECSB would be the lead agency.

2. AECL's Position

The churches also discussed the waste management program with AECL in 1983.¹

Members first met in November 1982 with the Chairman of AECL's Technical Advisory Committee (TAC), Dr. Les Shemilt. The TAC was established by AECL to provide an independent review of the nuclear waste management program.*

Following the meeting with Dr. Shemilt, Taskforce members also met in December 1982 with a member of Concerned Citizens of Massey, Ontario. She related Massey's experience with AECL and the federal and Ontario governments after Massey's selection as a research site for the waste disposal program.

Questions based on these meetings and on information published by AECL were then formulated for a meeting in March 1983 with R.G. Hart, Executive Vice-President of the Atomic Energy of Canada Research Company.

Mr. Hart stated that AECL could not yet say that it has fully proven satisfactory methods for final disposal, but that nothing in the continuing accumulation of experimental evidence leads AECL to doubt that such proof will be obtained. Several of the questions and responses covered those exchanged with the government. Other issues addressed were:

1. The environmental impact of the research program at Massey, Ontario and Lac du Bonnet, Manitoba, and AECL's provisions for environmental assessment:

Both the Committee of Concerned Citizens of Manitoba and Concerned Citizens of Massey have requested the federal and provincial governments to undertake more extensive environmental impact studies, including public hearings in relation to AECL's underground research laboratory at Lac du Bonnet and to the test drilling at Massey. The groups have expressed concern about the effect of the research on water quality, and in particular the effect of the use of radioactive tracers. Mr. Hart replied that since no radioactive wastes are involved in those areas, the environmental impacts are analogous to other industrial activity involving drilling. For this reason, the government decided in 1981 that local approval is not required for test drilling. AECL conforms to existing regulations. It has also voluntarily subjected itself to provincial requirements for research at Massey, but the nature of the research program did not require public hearings. AECL went through the federal environmental assessment process for the research facility at Lac du Bonnet.

2. Can a test drilling site be used as a final disposal site?

Citizens of Massey have received a conflicting information about whether a research site is likely to become a final disposal site. The Committee of Concerned Citizens of Lac du Bonnet has also expressed fear that the underground research laboratory may become a disposal site.

Mr. Hart stated that both the federal and provincial governments and AECL have given assurance that the underground laboratory will not be a disposal site. Such assurances have not been given by AECL or by the Government to Massey. Dr. Shemilt of the TAC had told Taskforce members that test drilling at Massey would rule it out as a disposal site. Mr. Hart was less categorical in regard to Massey, although he granted that a research site was chosen for a range of properties that would not guarantee it as a good site for disposal. The choice of site would not be AECL's. The governments, through an established process for site selection, would select one from among a number of proposed by AECL, Mr. Hart said.

*The Committee is composed of scientists nominated by professional societies to advise AECL on the scope and scientific quality of the disposal program.

1. Taskforce on the Churches and Corporate Responsibility, Annual Report, 1982-83, pp. 60 - 61.

The Taskforce suggested that a case might be made for allowing a community adjacent to a research site the option of a veto over a proposed disposal site, an option not necessarily provided to other communities. Such a community would have a justifiable fear that there would be a bias towards selecting a research site as a disposal site, unless technical factors rule it out.

3. Concentration of research in northern areas:

The Taskforce wondered whether the north was seen as a "national sacrifice area", and asked why in Madoc, in southern Ontario, but not in Massey, in the north, public opposition had led to the cancellation of research.

Mr. Hart stated that most of the outcroppings of rock suitable for such research are in the Canadian Shield and hence mostly in the more northern part of the province. He confirmed, nevertheless, that because of public reactions, the provincial and federal ministers of energy told AECL to stay out of Madoc, and would not reverse the decision in spite of later representations from the Joint Councils in the area. He suggested that on the North Shore, while Massey itself opposes the research, more communities favour than oppose the research.

The Concerned Citizens of Massey, however, told members of the Taskforce that these communities had been subjected to a massive AECL public relations program which affected Massey's ability to get a hearing for its position. Also, Massey had asked the provincial government for the incorporation of townships in the unorganized territory outside of Massey, to permit these communities a voice in the issue. The request was not granted. In Massey itself, the Ontario Municipal Board would not allow the Town Council to hold a plebiscite to determine residents' attitudes, but an informal referendum in 1982 showed 88% of the residents opposed to the research.

4. Transportation of nuclear fuel wastes to northern sites:

The distance from a nuclear reactor to a nuclear waste disposal site will be determined in part by the type of disposal used. Disposal in hard rock will likely take place in northern Ontario. Disposal in other geologic structures could permit disposal sites closer to reactor sites.

The question of whether transportation distances should be a factor in determining the type of disposal given priority in research was not addressed directly by Mr. Hart. He stated, however, that the likelihood of waste escaping from nuclear waste containers, even in an accident, was remote. He also noted that the hazards of nuclear waste transportation are much less serious than those of chlorine, liquified natural gas, or even gasoline.

5. Wastes from Candu reactors overseas:

The Taskforce asked what responsibility AECL assumed for wastes generated by Candu reactors sold overseas.

Mr. Hart stated that AECL usually agrees to make its waste disposal technology available to customers. Rumours that Canada is planning to take wastes back arise from international discussions of a means of controlling the proliferation of nuclear weapons through International Fuel Cycle Centres. Canada has been suggested as a site, and AECL, in order to advise the government, has initiated a study of the economic and non-proliferation advantages and disadvantages of the concept.

6. Reasons for growing public opposition to nuclear power:

A survey in early 1983 showed that public support for the use of nuclear power had declined. Mr. Hart suggested that opposition is most prevalent among people unfamiliar with the facts; that the media report the bad and not the good news; and that the media do not distinguish between nuclear power and nuclear weapons. He did not comment on the fact that a 1982 survey showed that while there has been a gradual increase in the proportion of Ontario residents who have some knowledge of the nuclear waste disposal research program, there has also been a gradual increase in opposition to research drilling.

Later in 1983, the AECL published a pamphlet, "The False Apocalypse", based on Mr. Hart's presentation to the Taskforce. The theme of the pamphlet is that the churches have become "the champion of the insupportable and the prophet of the false apocalypse".

Mr. Hart accuses the churches, without documenting his charge, of disseminating information rejected as insupportable by the scientific community. He also states that the churches have questioned the ethics of those who work in the nuclear industry.

On the particular issue of high-level nuclear waste disposal, Mr. Hart disputes the "truism" that "there is no known method of dealing with nuclear wastes". "A more accurate statement", he said, "would be that nuclear wastes are one of the few energy wastes that can be handled properly". He does admit that scientists have not fully proven the safety of various disposal options, but states that nothing in the continuing accumulation of experimental evidence leads scientists to doubt that proof will be obtained.

The churches have not, Mr. Hart notwithstanding, questioned AECL's scientific research on the geologic disposal option for high-level nuclear waste, nor have they quarreled with the ethics of the scientists. They have, however, viewed as premature the judgement that a particular proposal for the disposal of high-level nuclear wastes can be pronounced as acceptable before a complete technical and socio-economic review has taken place.

E. Ontario Hydro

Under the 1978 agreement between the federal and Ontario governments, the responsibility for work on the storage and transportation of irradiated nuclear fuel was allocated to Ontario Hydro, while AECL was charged with the responsibility for waste immobilization and disposal.

The Taskforce contacted Ontario Hydro in January 1984, requesting posters and a brochure, "Transporting Radioactive Material: Questions and Answers", advertised in a nuclear magazine.

The Taskforce also asked for any annual reports or assessment of the nuclear fuel waste transport program. In particular, it inquired about information pertaining to the selection of transportation routes. It wanted to know what factors will be considered in assessing routes; whether any guidelines had been produced; and whether any socio-economic impact analyses had been undertaken.

An Ontario Hydro official responded that the information requested was not yet available, but would likely become gradually available before the public hearings, and would be incorporated in AECL's Interim Concept Assessment Documents. He stated that some preliminary studies have been done of community reaction to the shipment of casks of used nuclear fuel through their areas.

In spite of this apparent lack of background information and reports, the public relations pamphlet boasts of Ontario Hydro's safety in transporting small amounts of used fuel since 1963. The pamphlet predicts that by the year 2000 there will be two to three shipments a week from each of the nuclear generating stations, and states that

Ontario Hydro has an extensive development program under way to make sure there will be an effective transportation program, including proven vehicles and durable containers, well before they are needed.

F. Canadian Nuclear Association

At the invitation of the Social Issues Committee of the Canadian Nuclear Association, church representatives met the Committee on February 21, 1984 to consider a CNA discussion document, "Ethical and Social Issues in High-Level Waste Disposal". The document was comprehensive and thoughtful and the attempt to dialogue was genuine. Nevertheless, church representatives felt uneasy about continuing the dialogue which might be seen to replace an opportunity for public discussion about the ethical and social issues in the concept assessment process. Church representatives agreed to a second meeting, but asked that it focus on structures and public processes for addressing social and ethical issues associated with the waste management program. Included in the meeting were observers from Environment Canada and the AECB, in addition to CNA members from AECL, Ontario Hydro and private industry. Because the gathering included representatives of most of the institutions involved in the waste disposal program, church representatives were able to test their perceptions of the history and direction of the waste management program against a variety of viewpoints. They did not, however, perceive any significant change in the positions of each of the institutional actors. The patterns of policy making and regulation are clearly well established, and it will take larger efforts than the Taskforce can muster to move them to a more participatory inclination.

IV. CONCLUSION

Unfortunately, the political process involved in the waste management program is not designed to finally result in a widely understood and publicly accepted conclusion on how to dispose of nuclear wastes. It is difficult to avoid

the conclusion that the program may be designed, instead, to minimize attention to nuclear wastes, at least until 1990 when the nuclear industry hopes it will have passed through a period of commercial difficulty.

The churches, in their brief to the AECB of June 1982, said they were unsettled by the possibility that the concept assessment process is intended as "a clear indication of confidence by the government that the waste management question is on its way to solution". They were quoting from a draft of the Government's internal "Inter-Agency Review of the Nuclear Power Industry" which had found its way to the press in June, 1981. The Review speculated on ways by which the domestic market for nuclear reactors could be improved. It noted that one of the factors which made utilities increasingly reluctant to pursue the nuclear option was public concern about health and the environment. The problem of public opposition could be dealt with, the document suggested, through proper handling of the waste disposal issue.

A good example of possible positive action is in the area of radioactive waste management, which public opinion polls indicate is an important factor in public opposition to further nuclear expansion. It is also one of the areas in which public perceptions differ most sharply from the views of scientists and engineers to whom the waste disposal problem appears more easily amenable to solution than a large number of non-nuclear related environmental and safety problems.

The federal and Ontario governments, through AECL and Ontario Hydro, have an active program in spent fuel disposal. While still in an early stage, a considerable amount of information has been accumulated in the process of concept verification. One straightforward option, therefore, is to issue a clear indication of confidence by the government that the waste management question is on its way to solution, and at the same time providing increased funding of the waste disposal program to allow it to proceed at the technologically determined pace. 1

1. "Policy Review of the Nuclear Power Industry in Canada (Draft Report), Concluding Section". Results of an Inter-Agency Review conducted under the direction of Reiner Hollbach of Energy, Mines and Resources.

The experience of the churches in examining the waste management program since then, suggests that the inadequacy of public consultation aspects of the program might be attributable only in part to the government's support for nuclear power development. The program also suffers from the limitations described in studies of policy making in relation to environmental hazards and new technological developments generally. Inattention to the value judgements implicit in scientific evidence; an inability or unwillingness to find meaningful ways to involve the non-expert public in discussion of a new technology as it is being developed; a decision-making system in which the regulated corporation has resources superior to those of the regulators; and an institutional framework for decision-making in which the responsible department of government has a conflict of interest, are the features identified by the churches' examination of decision-making in the nuclear waste management program.

APPENDIX 1

CHURCH POLICIES AND WORKING PAPERS ON ENERGY AND THE ENVIRONMENT

Most denominational members of the Taskforce have policy statements expressing concern for the environment: Anglican Church of Canada, "Statement and Resolution of Pollution" 1969; Canadian Conference of Catholic Bishops, "Northern Development: At What Cost?" 1975; Lutheran Church in America, "The Human Crisis in Ecology", 1972; Presbyterian Church in Canada, "A Theology of Ecology" and "A Policy Statement on Ecology", 1973; United Church of Canada, "Report on the Task Force on the Environment", 1977.

In addition, several member denominations developed policy statements or working papers on energy issues, or mandated staff to develop resources for discussion of and action on energy issues: Anglican Church of Canada, "Energy", 1980; Canadian Conference of Catholic Bishops, "Submission to National Energy Board", 1977; United Church of Canada, "The Nuclear Option for Canadians", 1980.

At its 1982 General Council, the United Church adopted a report, "Energy and the Church", which urged that greater church priority be given to energy and environmental concerns. It recommended that questions of justice and equity be the major focus of the Church's involvement in energy issues. The report argued that the energy problem was primarily a question of equitable distribution and of the appropriate use of finite resources, rather than of production of increasing supplies. It urged a major shift towards the development of the potential of "soft path" energy options, including conservation, solar, wind, biomass and other renewable energy sources.

At its 1983 General Assembly, the Presbyterian Church adopted a statement, "Peaceful Uses of Nuclear Energy". It stated that the wider mandate for the Church in raising energy questions was stewardship under God, and that assessment and accountability for Christian thought and witness were provided in the World Council of Churches' framework of justice, participation, and sustainability.

The statement calls for a moratorium on new nuclear facilities, on the expansion of existing facilities, and on the export of nuclear technology and materials until certain conditions are met. Such conditions should include verifiable technology for the safe storage and transport of nuclear wastes; augmenting verifiable safeguards against the use for military purposes of exported nuclear technology; and the establishment of effective forms of public participation in decisions affecting the location and operation of uranium mines and nuclear plants.

The Lutheran Church of America - Canada Section, at its 1983 Convention, adopted a study paper, "Energy and Our Future: Who is Deciding?", and commended it to its synods for study and action. The study paper adopted the World Council of Churches' theme that energy choices should contribute towards a just, participatory and sustainable society. It calls on the Church to seek ways to work for such policies both on a global basis, and in its own congregations and regions.